
 Cessna 172 in flight



 1964 Cessna 172E



 1965 Cessna F172G



1971 Cessna 172



The 1957 model Cessna 172 Skyhawk had no rear window and featured a "square" fin design



Airplane



Cessna 172 single engine aircraft, flies overhead after becoming airborne. Catalina Island airport, California (KAVX)



1964 Cessna 172E (G-ASSS) at Kemble airfield,

Gloucestershire, England.

The **Cessna 172 Skyhawk** is a four-seat, single-engine, high-wing [airplane](#). Probably the most popular [flight training aircraft](#) in the world, the first production models were delivered in [1957](#), and it is still in production in [2005](#); more than 35,000 have been built. The Skyhawk's main competitors have been the popular [Piper Cherokee](#), the rarer [Beechcraft Musketeer](#) (no longer in production), and, more recently, the [Cirrus SR22](#). The Skyhawk is ubiquitous throughout the Americas, Europe and parts of Asia; it is the aircraft most people visualize when they hear the words "small plane." More people probably know the name [Piper Cub](#), but the Skyhawk's shape is far more familiar.

The 172 was a direct descendant of the [Cessna 170](#), which used conventional ([taildragger](#)) landing gear instead of [tricycle gear](#). Early 172s looked almost identical to the 170, with the same straight aft fuselage and tall gear legs, but later versions incorporated revised landing gear, a lowered rear deck, and an aft window. Cessna advertised this added rear visibility as "Omnivision". The final structural development, in the mid-[1960s](#), was the sweptback tail still used today. The airframe has remained almost unchanged since then, with updates to [avionics](#) and [engines](#) including (most [recently](#)) the [Garmin G1000 glass cockpit](#). Production ended in the mid-[1980s](#), but was resumed in [1996](#) with the 160 hp (120kW) **Cessna 172R** and 180 hp (135kW) **Cessna 172SP**.

The older Skyhawks shipped with a 145 [horsepower](#) (110 kW) engine; later planes shipped with engines up to 180 horsepower (135 kW), though 150 or 160 hp (110 or 120 kW) is more common. Cessna produced a retractable-gear version of the 172 named the **Cutlass 172RG** and also produced versions on floats. The 172RG also had a variable pitch, constant speed propeller and more powerful stock engine as did the more spartan militarized **Cessna 172E** that was sold to the US Army as a spotter plane. The **R172K Hawk XP** was produced in the late 1970s, and featured a fuel injected Continental IO-360-k, derated to 195hp, driving a two bladed constant speed prop. This aircraft is capable of 131 knot cruise speed, and performs similarly to the Cessna 182.

The normal cruising speed for a fixed-gear 172 ranges from about 105 to 125 [knots](#), depending on the engine and vintage.

The Skyhawk is part of a large family of high-wing, tricycle-gear, single-engine Cessna planes, ranging from the two-seater [150/152](#) (no longer in production) to the more powerful [182 Skylane](#), the six-seat [206 Stationair](#), and the fourteen-seat turboprop [208 Caravan](#), along with several other models no longer produced.

See also: [T-41 Mescalero](#).

Specifications (172R)

General Characteristics

- **Crew:** pilot
- **Capacity:** 3 passengers
- **Length:** 8.28 m (27 ft 2 in)
- **Wingspan:** 11.0 m (36 ft 1 in)
- **Height:** 2.72 m (8 ft 11 in)
- **Wing area:** 16.2 m² (174 ft²)
- **Empty:** 743 kg (1,620 lb)

- **Maximum useful load:** 400.5 kg (881 lb)
- **Maximum takeoff:** 1,111kg (2,450 lb)
- **Powerplant:** 1 x [Lycoming](#) IO-360-L2A, 160 BHP (119 kW) at 2,400 RPM

Performance

- **Maximum speed (At sea level) :** 228 km/h (123 knots / 142 mph)
- **Never Exceed speed :**160 knots
- **Range:** 1,272 km (687 nm) (Cruise 60% power at 3,040 m (10,000 ft))
- **Service ceiling:** 4,115 m (13,500 ft)
- **Rate of climb:** 219 m/min (720 ft/min)
- **Wing loading:** 68.8 kg/m² (14.1 lb/ft²)
- **Power/mass:** 6.9 kg/hp (15.3 lb/hp)

Related content

Designation sequence:

[C-152](#) - [C-170](#) - **C-172** - [C-177](#) - [C-182](#) -

Similar aircraft:

- [Beechcraft Bonanza](#)
- [Piper Cherokee](#)

Related lists:

- [List of airliners](#)
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External links:

- [Airliners.net - Cessna 172 Skyhawk](#)
- [Cessna Aircraft Home Page](#)

Cessna

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Cessna Aircraft Company, located in [Wichita](#), [Kansas](#), is a [manufacturer](#) of [general aviation aircraft](#), from small two-seat, single-engine airplanes to business jets.

The company traces its history to June [1911](#), when [Clyde Cessna](#), a farmer in [Rago, Kansas](#), built a wood-and-fabric plane and became the first person to build and fly an aircraft between the [Mississippi River](#) and the [Rocky Mountains](#). Yet it was Clyde's nephew, [Dwane Wallace](#), who was the person most responsible for the company's success.

In [1924](#), Cessna partnered with [Lloyd C. Stearman](#) and [Walter H. Beech](#) to form the [Travel Air Manufacturing Co.](#), Inc., a [biplane](#) manufacturing firm, in Wichita. In [1927](#) he left Travel Air to form his own company, the *Cessna Aircraft Company*, to build monoplanes.

Cessna Aircraft Company closed its doors from 1932–1934 due to the state of the economy. In 1934, Dwane Wallace, with the help of his brother Dwight, took control of the company and began the process of building it into a global success.

After [World War II](#), Cessna created the 170, which, along with later models (notably the 172), became the most widely produced light aircraft in history. Cessna's advertising boasts that its aircraft have trained more pilots than those of any other company.

Cessna was bought by [General Dynamics](#) Corporation in [1985](#), and it stopped producing piston-engine airplanes the next year due to concerns over [product liability](#). In [1992](#), [Textron](#) Inc. bought Cessna and soon resumed producing light aircraft.

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Aircraft

- [Cessna 120](#)
- [Cessna 140](#)
- [Cessna 150](#)
- [Cessna 152](#)
- [Cessna 170](#)
- [Cessna 172](#)
- [Cessna 175](#)
- [Cessna 177](#)
- [Cessna 180](#)
- [Cessna 182](#)
- [Cessna 185](#)
- [Cessna 188 AgWagon & AgTruck](#)
- [Cessna 190](#)
- [Cessna 195](#)
- [Cessna 205, 206 Stationair and 207](#)
- [Cessna 208 Caravan](#)
- [Cessna 210](#)
- [Cessna 303](#)
- [Cessna 305 Birddog](#)
- [Cessna 310](#)
- [Cessna 335](#)
- [Cessna 337](#), [O-2 Skymaster](#)



1951 Cessna 195



1977 Cessna 404 Titan II

- [Cessna 340](#)
- [Cessna 401](#)
- [Cessna 404](#)
- [Cessna 414](#)
- [Cessna 421](#)
- [Cessna 402](#)
- [Cessna 425 Conquest I](#)
- [Cessna 441 Conquest II](#)
- [Cessna 500 Citation I](#)
- [Cessna 501 Citation I](#)
- [Cessna 510 Citation Mustang](#)
- [Cessna 525 Citation Jet, CJ1](#)
- [Cessna 525A CJ2](#)
- [Cessna 525B CJ3](#)
- [Cessna 550 Citation II](#)
- [Cessna 551 Citation II](#)
- [Cessna S550 Citation SII](#)
- [Cessna 560 Citation V, Citation Ultra, Citation Encore](#)
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- [Cessna 650 Citation III, Citation VI, Citation VII](#)
- [Cessna 680 Citation Sovereign](#)
- [Cessna 750 Citation X](#)
- [Cessna T-37](#)

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External links

Piper Cherokee

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Cherokee is the common name for the Piper's PA-28 family of [aircraft](#) models, which received its type certificate from the [FAA](#) in [1960](#) and is still under production by [The New Piper Aircraft Company](#).



Piper Cherokee PA-28-181 (Archer II).

The Cherokee is an all-metal, unpressurized, four-seat, single-engine, [piston-powered](#) plane with low [wings](#) and [tricycle landing gear](#); its main competitors have been the [Cessna 172](#) and the [Beechcraft Musketeer](#). All Cherokees have a single door on the co-pilot side, which is entered by walking on the wing. The low-end Cherokees are popular [trainers](#).

Piper has created many variations on the Cherokee by installing engines ranging from 140 to 235 [horsepower](#) (105 to 175 kW), fixed or retractable landing gear, fixed-pitch or constant-speed [propellers](#), and even [turbocharging](#).



Piper PA-28 Cherokee 180E.

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History

The original Cherokees were the Cherokee 150 and Cherokee 160 (PA-28-150 and PA-28-160), which started production in [1961](#) (unless otherwise mentioned, the model number always refers to horsepower). In [1962](#), Piper added the Cherokee 180 (PA-28-180): the extra power made it practical to fly with all four seats filled, and the Cherokee 180 remains popular on the used-airplane market. Piper continued to expand the line rapidly: in [1963](#), the company introduced the even more powerful Cherokee 235 (PA-28-235), which competed favourably with the [Cessna 182](#) for load-carrying capability; in 1964, the company filled in the bottom end of the line with the Cherokee 140 (PA-28-140), which was designed for training and typically shipped with only two seats at first. An often confused issue, the PA-28-140 was slightly modified shortly after its introduction to produce 150 horsepower (112 kW), but kept the -140 name.



Piper PA-28R-200 Cherokee Arrow at Carp Airport, Ontario, June 2005 showing the landing gear doors particular to this retractable gear version of the Cherokee

In [1967](#), Piper introduced the PA-28R-180 Cherokee Arrow. This aircraft featured a [constant-speed propeller](#) and retractable landing gear and was powered by a 180 horsepower (134 kW) [Lycoming O-360](#) engine. The engine was upgraded to 200 horsepower (149 kW) in [1969](#) and the designation was changed to PA-28R-200. At the same time the Arrow was introduced Piper removed the Cherokee 150 and Cherokee 160 from production.

In [1968](#), the cockpit was modified to replace the "push-pull" style throttle with a more modern style with levers for the throttle and mixture.



Piper Warrior II on takeoff roll

In [1971](#), Piper released a Cherokee 140 variant called the *Cherokee Cruiser 2+2*; although the plane kept the 140 designation, it was, in fact, a 150 horsepower plane (112 kW), and shipped mainly as a four-seat version. In [1973](#), the Cherokee 180 was named the *Cherokee Challenger*, and had its fuselage lengthened slightly and its wings widened, and the Cherokee 235 was named the *Charger* with similar airframe modifications. In [1974](#), Piper fiddled with the names again, renaming the *Cruiser 2+2* (140) to simply *Cruiser*, the *Challenger* to *Archer* (PA-28-181), and the *Charger* (235) to *Pathfinder*. Piper also reintroduced the Cherokee 150 that year, renaming it the *Cherokee Warrior* (PA-28-151) and giving it the Archer's stretched body and a new, semitapered wing.

In [1977](#), Piper stopped producing the Cruiser (140) and Pathfinder (235), but introduced a new 235 horsepower (175 kW) plane, the *Dakota* (PA-28-236), with the new semi-tapered wing. A 200 horsepower (149 kW) Turbo Dakota (PA-28-201T) briefly followed but did not sell well and soon stopped production. In [1978](#), Piper upgraded the Warrior to 160 horsepower (119 kW) PA-28-161, changing its name to *Warrior II*.

The original [Piper Aircraft](#) company declared bankruptcy in [1991](#). In [1995](#), [The New Piper Aircraft](#) company was set up. It currently (2005) produces three PA-28 Cherokee variants: the 160 horsepower (119 kW) Warrior III (PA-28-161), the 180 horsepower (134 kW) Archer III (PA-28-181), and the 200 horsepower (149 kW) retractable Arrow (PA-28R-200), which also comes in a [turbocharged](#) version (PA-28R-200T). All are now available with [Avidyne FlightMax glass cockpits](#), like many new general aviation aircraft.

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Wing design

Originally, all Cherokees had a rectangular wing popularly called the *Hershey Bar* wing. Beginning with the Warrior in 1974, Piper switched to using a [tapered wing](#).

The two Cherokee wing designs are the source of a great deal of debate inside the Cherokee community. For example, some pilots claim that the "Hershey Bar" wing produces a more abrupt stall, with loss of [aileron](#) effectiveness; this is unlikely, as a rectangular wing has a more favorable distribution of lift than a tapered wing. In reality, [washout](#) (twisting the wing with a higher [angle of incidence](#) at the root than at the tip) is more important than taper for stall control, and both wing types exhibit this twist.

Likewise, some pilots claim that the semi-tapered wing reduces cruise speed; in fact, both the semi-tapered 160 horsepower Warrior II and the 180 horsepower Archer II have higher published cruise speeds than their straight-wing predecessors, the Cherokee 160 and Cherokee 180. It is important to note, however, that some of that difference is accounted for by other aerodynamic improvements, such as gap seals and better wheel fairings.

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Specifications (PA-28-161 Warrior II, 1982-)

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General characteristics

- **Crew:** one, pilot, (co-Pilot, Optional)
- **Capacity:** 3 passengers
- **Length:** 23 ft 10 in (7.3 m)
- **Wingspan:** 35 ft 0 in (10.7 m)
- **Height:** 7 ft 4 in (2.2 m)
- **Wing area:** 170 ft² (15.8 m²)
- **Empty weight:** 1,500 lb (680 kg)
- **Maximum takeoff weight:** 2,440 lb (1,107 kg)
- **Powerplant:** 1x [Lycoming O-320](#)-D3G, 160 hp (120 kW)
- **Fuel Capacity:** 50 US gallons (189 liters) total, 48 US gallons (182 liters) usable
- **No-fuel Useful Load:** 940 lb (426 kg)
- **Full-fuel Useful Load:** 653 lb (296 kg)

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Performance

- **Cruise speed (75% power):** 127 knots (235 km/h) true airspeed at 8,000 ft (2438 m) density altitude, 2,300 lb (1,043 kg) gross weight
- **Range (75% power, no reserve):** 660 nautical miles (1,167 km) at best economy mixture, 8,000 ft (2,438 m) density altitude, 2,300 lb (1,043 kg) gross weight, no wind
- **Fuel consumption (75% power):** 10 US gallons (38 liters) per hour at best power mixture setting; 8.5 US gallons (32 liters) per hour at best economy mixture setting
- **Service ceiling:** 11,000 ft (3,350 m)
- **Rate of climb:** 640 ft/min (195 m/min) at sea level, 2,440 lb (1,107 kg) gross weight
- **Wing loading:** 14.4 lb/ft² (70.1 kg/m²)
- **Power loading:** 15.3 lb/hp (9.2 kg/kW)

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Related content

Designation sequence:

[PA-23](#) - [PA-24](#) - [PA-25](#) - **PA-28** - [PA-30](#) - [PA-31](#) - [PA-32](#)

Related development:

- [Piper PA-17 Vagabond](#)
- [Piper Cherokee Six](#)
- [Piper PA-32 Series](#)

Similar aircraft:

- [Beechcraft Bonanza](#)
- [Cessna 172](#)
- [Morane-Saulnier Rallye](#)

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External links:

- [Aircraft-Info.net - Piper PA-28 Cherokee Series](#)
- [New Piper Aircraft Home Page](#)

Piper J-3

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A Piper J-3 Cub at Embrun, Ontario, August 2004

The **Piper J-3 ‘Cub’** was designed by [Walter Jamouneau](#) as a small, light and simple utility aircraft. It is one of the most popular and best-known light aircraft of all time, and its simplicity, affordability, and popularity invoked comparisons to the [Ford Model T automobile](#). Its standard yellow paint job came to be known as “Cub Yellow.”

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Introduction

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History / Development

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Pre-war

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Background

Its predecessor, the [Taylor E-2 Cub](#), first appeared in [1930](#). It underwent several changes and became the **J-2**, released in [1936](#), when [William T. Piper](#) bought out [C. Gilbert Taylor](#). Although sales were initially slow, about 1,200 J-2s were produced before a fire in the Piper factory ended its production in [1938](#).

After Piper moved his factory, the J-3 replaced the J-2. Powered by a 40 horsepower (30 kW) engine, in 1938 it sold for just over \$1,000. Sales were boosted by the pre-[World War II](#) [Civilian Pilot Training](#) program, and the Cub was later modified to perform various [military](#) duties. An icon of the era, the J-3 Cub has long been beloved by pilots and non-pilots alike, with thousands still in use today.

[\[edit\]](#)

World War II service



L-4A painted and marked to represent an aircraft that flew in support of the Allied invasion of North Africa in November 1942



A Piper Cub of the 1st Marine Division's improvised air force snags a message from a patrol on New Britain's north coast.

Piper developed a military variant, used during [World War II](#), which was designated **L-4**. Used primarily as a trainer and a surveillance plane, an L-4 "Grasshopper" once found itself pursued by a [German Messerschmitt Bf-109](#), outmaneuvered it and caused it to crash, and was credited for a kill. L-4s were also sometimes equipped with rockets. Mechanically identical to the J-3, the military versions were equipped with large [Plexiglas](#) windows extending over the top of the wing and behind the rear-seat passenger, and the side windows were enlarged as well. After the war, most L-4s were destroyed or sold as surplus, but a few saw service in the [Korean War](#). The Grasshoppers sold as surplus in the U.S. were redesignated as J-3s, but often retained their wartime glazing and paint.

[\[edit\]](#)

Post-war

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Legacy



 Piper Cub portrayed in a [1997](#) stamp by the [United States Postal Service](#), part of a series called 'Classic American Aircraft'.

Piper sold 19,073 J-3s between 1938 and 1947, the majority of them L-4s and other military variants. Postwar, thousands of Grasshoppers were civilian-registered under the designation J-3. Hundreds of Cubs were assembled from parts in Canada, Denmark, and Argentina, and by a licensee in Oklahoma. A 1946 model that sold new for about \$2,500 would fetch more than \$30,000 today in good condition.

In the late 1940s, the J-3 was replaced by the PA-11 (1,500 were produced), and then the [Piper PA-18 Super Cub](#), which Piper produced until [1981](#) when it sold the rights to WTA Inc. In all, Piper produced 2,650 Super Cubs. The Super Cub had a 150-horsepower (110 kW) engine which increased its top speed to 130 miles per hour (210 km/h) and its range to 460 miles (740 km).

Modernized and up-engined versions are produced today by [Cub Crafters](#) of [Washington](#) and by [American Legend Aircraft](#) in [Texas](#), as the Cub continues to be sought after by [bush](#) pilots for its [STOL](#) capabilities.

So popular is the J-3 as a subject for radio controlled model aircraft that manufacturers of R/C covering film produce it in available Cub Yellow.

[\[edit\]](#)

Specifications (J3C-65 Cub)

General characteristics

- **Crew:** 1
- **Capacity:** 1 passenger
- **Length:** 22 [ft](#) 5 [in](#) (6.8326 [m](#))
- **Wingspan:** 35 ft 3 in (10.74 m)

- **Height:** 6 ft 8 in (2.03 m)
- **Wing area:** 178.5 [ft²](#) (16.58 [m²](#))
- **Empty weight:** 765 [lb](#) (345 [kg](#))
- **Useful load:** 455 lb (205 kg)
- **Maximum gross takeoff weight:** 1,220 lb (550 kg)
- **Powerplant:** 1× [Continental](#) A-65-8 , 65 [hp](#) @ 2350 RPM (48 [kW](#))

Performance

- **Maximum speed:** 76 [knots](#) (87 [mph](#), 140 [km/h](#))
- **Cruise speed:** 65 knots (75 mph, 121 km/h)
- **Range:** 191 [nm](#) (220 [mi](#), 354 [km](#))
- **Service ceiling:** 11,500 ft (3,500 m)
- **Maximum rate of climb:** 450 ft/min (2.3 m/s)
- **Wing loading:** 6.84 lb/ft² (33.4 kg/m²)
- **Power/mass:** 18.75 lb/hp (11.35 kg/kW)

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Related content



[Wikimedia Commons](#) has media related to:

[Piper J-3](#)

Designation sequence:

Taylor / Piper Cub series

Civilian

- [Taylor E-2](#) - [F-2](#) - [G-2](#) - [H-2](#)
- [Taylor J-2](#) - [Piper J-2](#)
- **J-3 Cub** - [PA-11 Cub Special](#)
- [J-4 Cub Coupe](#)
- [J-5 Cub Cruiser](#) - [PA-12 Super Cruiser](#) - [PA-14 Family Cruiser](#)
- [PA-18 Super Cub](#)

Military

- [AE](#) - [C-83](#) - [HE](#) - [L-4](#) - [L-14](#) - [L-18](#) - [L-21](#) - [LNP](#) - [NE](#) - [O-59](#) - [TG-8](#) - [U-7](#)

Related development:

- [American Legend Aircraft Company Legend Cub](#)
- [Cub Crafters CC11-100](#)
- [Wag-Aero Sport Trainer](#)

Similar aircraft:

- [Aeronca Champ](#)
- [Kitfox Model 5](#)
- [Taylorcraft BC-65](#)

External links:

Cirrus Design

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The **Cirrus Design Corporation** is an [aircraft manufacturer](#) founded in [1984](#) by Alan and Dale Klapmeier. Originally a maker of [homebuilt aircraft](#) kits, the company has created and marketed several designs; three are four-seat, single-engine [airplanes](#): the [SRV](#), the [SR20](#) and the [SR22](#), currently in production [as of 2005](#). The [VK-30](#) was a pusher-propeller design, sold as a kit, of which very few were built. Cirrus is headquartered in [Duluth, Minnesota](#) and has a facility in [Grand Forks, North Dakota](#).



2003 Cirrus SR22

Cirrus aircraft are extremely modern, with [Avidyne FlightMax digital flight displays](#) and modern [avionics](#) as standard equipment. The aircraft are all electric, no [vacuum](#) systems are used. Redundancy is provided by dual [batteries](#) and [alternators](#). The SR22 is also available with [TKS](#) de-icing equipment, but [as of 2005](#) is not certified for flight into known icing conditions.

A unique feature of Cirrus aircraft is the [Cirrus Aircraft Parachute System](#) (CAPS), a ballistic parachute system that allows the entire aircraft to descend safely from an emergency. Cirrus is the first manufacturer to be awarded [FAA](#) certification for a production aircraft with a ballistic parachute

system. CAPS is standard on every Cirrus. The system is designed for the safety of the occupants rather than the aircraft, and serious damage may result to the aircraft when used. As such, the system is considered a last resort. Cirrus has compared the ground impact from a CAPS deployment to a drop from ten feet above ground level. There have been a number of successful emergency deployments.

The aircraft incorporate other unusual design elements. All Cirrus aircraft use a "side yoke" instead of the traditional [yoke](#) or stick [flight controls](#). The aircraft also use a single power lever that adjusts both throttle and propeller RPM via a mechanical cam actuated throttle and propeller control system. Construction is dominated by the use of [composite materials](#), although traditional [aluminum](#) is used where necessary.

The company has achieved notable success. According to the General Aviation Manufacturers' Association, in 2005 the SR22 was the #1 selling certified single engine airplane.

Conventional landing gear

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The [Piper Super Cub](#) is a popular taildragger aircraft.

Conventional landing gear describes an aircraft landing gear configuration with an [undercarriage](#) arrangement consisting of two main wheels and a tail wheel. In early aircraft, a tail skid made of metal or wood was used. In modern aircraft, a small, articulated [wheel](#) assembly is attached to the most [posterior](#) part of the [airframe](#). The terms *taildragger* and *tailwheel* are aviation [jargon](#) for conventional gear.

[\[edit\]](#)

History and current use

Tailwheel aircraft are no longer commercially produced in large numbers, yet they are still made in high numbers by individuals who build aircraft from plans or kits. Examples of these tailwheel aircraft are the [Vans RV-4](#), [Kitfox](#), and the [Murphy Moose](#). Commercially made tailwheel aircraft are still preferred for use in speciality applications such as [aerobatics](#), [agriculture](#), and [back-country flying](#).

[\[edit\]](#)

Characteristics

This section applies to [General Aviation](#) aircraft only.

Taildraggers will behave just like [tricycle gear](#) aircraft when flying. Taildraggers, though, have ground handling characteristics that can be challenging. In a taildragger, the center of mass is located behind the front landing gear, which is an inherently less stable configuration than a tricycle landing gear. If the pilot is not able to keep the [longitudinal](#) axis of the aircraft aligned with the runway, then the center of mass of the aircraft will tend to rotate around the landing gear (the highest point of drag, or [friction](#) while on the ground) until the center of mass is in front of the highest point of drag. This results in an abrupt turn known as a [ground loop](#), typically causing damage. There is no doubt that more skill is needed to take off and land a tailwheel aircraft, and some translate this to mean that tailwheel aircraft are harder to operate. However, the added skill is a benefit to any pilot, and some nosewheel pilots develop similar levels of skill without ever flying a tailwheel aircraft.

The tailwheel landing gear configuration has benefits when landing in high winds and rough, unimproved runways in that in such applications the sometimes fragile front landing gear could be easily damaged as it is often relied upon to counter any [transverse](#) loading, or side loads. A tailwheel aircraft offsets side loads and maintains direction by using [control surfaces](#), which along with the leverage from the structure of the aircraft, are made to handle such loads. In high crosswinds, as a tailwheel aircraft slows and the forces exerted by the control surfaces decrease it may be necessary to simply let the tailwheel aircraft rotate around and point nose-first into the wind. This tends to alarm untrained nosewheel pilots. The use of a [locking tailwheel](#) may reduce this [weather vane](#) tendency, but it once again adds transverse loads to parts of the aircraft structure that are not typically designed for such loads. Many nosewheel landing gear struts are structurally little more than props to hold up the front of the aircraft, and do not deal well with sideloads. It should be noted that skilled pilots of tricycle landing gear use techniques very similar to tailwheel pilots in order to avoid damaging the front landing gear in challenging situations. Also, single engine tricycle gear aircraft typically have very little clearance between the front propeller and the ground, making operations on rough or unimproved airfields problematic. This can be countered on tricycle gear aircraft by modifying the landing gear to accommodate larger tires and wheels.

While on the ground, visibility over the nose may be reduced due to the pitch attitude of the aircraft, depending on the model and geometry of specific aircraft. But, not all taildraggers have poor forward visibility on the ground. For example, the [Cessna 170](#) taildragger has better visibility over the nose than later model tricycle gear [Cessna 172](#)'s due to the increased size of the instrument panel in the later model 172's.

Taildragger versions of the same aircraft often have higher useful loads and cruise speeds due to the elimination of the nose gear and its associated drag and weight.

There are experienced tailwheel pilots who insist that the added challenges of a tailwheel aircraft arise largely from a lack of skill that results from poor training when transitioning from a tricycle landing gear aircraft. Most pilots now learn to fly in tricycle gear aircraft (e.g., [Cessna 152](#) and [Cessna 172](#)) and only later transition to taildraggers. Since the number of factory-built [general aviation](#) aircraft with a tailwheel is fairly low, the numbers of instructors experienced in this type of aircraft are also limited.